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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,480	03/28/2005	Tatsuya Igari	450100-04782	6753

7590 10/20/2008  
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EXAMINER
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TORRES, JOSE

ART UNIT	PAPER NUMBER
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2624

MAIL DATE	DELIVERY MODE
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10/20/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/529,480	<b>Applicant(s)</b> IGARI ET AL.	
	<b>Examiner</b> JOSE M. TORRES	<b>Art Unit</b> 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-8 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8 is/are allowed.
- 6) ☒ Claim(s) 1 and 5-7 is/are rejected.
- 7) ☒ Claim(s) 3 and 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Comments*

1. The Amendment – After Non-Final Rejection filed on June 26, 2008 has been entered and made of record.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Herman et al. (U.S. Pat. No. 6,075,905).

Re claims 1, 6 and 7: Herman et al. disclose an image processing apparatus/method/recording medium storing a program for generating a wide-angle picture (“high quality images, having a wide field of view”) by overlapping three or more pictures (“aligning three or more source images”) captured at different visual points (“sweeping motions”, “images are collected from a camera undergoing predominately rotational rather than translational motion”), each picture including a part of at least one other picture, the image processing apparatus comprising: an overlap detecting means (FIG. 1, “Region Selection **104** and User Interface **109**”) for detecting an overlap portion (“overlapping

region”) of a first picture (“Frame **311**”) and a second picture (“Frame **312**”) within the wide-angle picture (Col. 5 lines 23-38 and Col. 9 line 66 through Col. 10 line 4); a comparing means (FIG. 1, “Image Alignment **103** and User Interface **109**”) for comparing pixel values between pixels of the first and second pictures in each of the overlap portions within the wide-angle picture (“comparisons between the colors in the overlap regions between the images.”, Col. 4 lines 43-64 and Col. 15 lines 8-22); a splicing means (FIG. 1, “Image Alignment **103** and User Interface **109**”) for performing a splicing by shifting (“shift”) the overlap portions based on the comparison by the comparison means (Col. 4 lines 43-64 and Col. 15 lines 8-22); a difference calculating means (FIG. 1, “Image Alignment **103** and User Interface **109**”) for calculating the absolute value of differences (“minimum absolute value difference”) in pixel values, for each color component, between the first and second picture pixels identical in positions on the wide-angle picture in each of the overlap regions (Col. 4 lines 43-64, Col. 14 lines 45-60, Col. 15 lines 8-22 and Col. 20 lines 21-38); wherein the comparing means compares the sum of the absolute values from all the overlap portions with a first predetermined threshold (“ $T_{low}$ ”, Col. 20 line 21 through Col. 21 line 8).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Herman et al. in view of Fujii (U.S. Pub. No. 2003/0161510). The teachings of Herman et al. have been discussed above.

As to claim 5, Herman et al. does not explicitly disclose an edge extracting means for extracting edges from the first and the second pictures in the overlap portions; and an edge difference comparing means for calculating the misalignment width of the edges of the first and second pictures in each of the overlap portions, wherein the comparing means compares the sum of the misalignment widths for all of the overlap portions with a second predetermined threshold.

Fujii teaches an edge extracting means ("Laplacian filter") for extracting edges ("edges lines are extracted") from the first and the second pictures in the overlap portions ("The extraction process of the characteristic shapes in steps S1 to S3 are repeated until all the fingerprint section images are processed in step S4.", Paragraph [0101]); and an edge difference comparing means (FIG. 1, "Common Area Searching Unit 24") for calculating the misalignment width ("evaluation value") of the edges of the first and second pictures in each of the overlap portions, wherein the comparing means (FIG. 1, "Image Connection Unit 28") compares the sum of the misalignment widths for all of the overlap portions with a second predetermined threshold ("predetermined rate", Paragraphs [0093], [0100], [0101], [0117]-[0119], and [0134]).

Therefore, in view of Fujii, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Herman et al. by incorporating the Laplacian filter to extract edges from the overlapping sections of the images, the Common Area Searching Unit to calculate the evaluation value and the Image Connection Unit to compare the sum of the evaluation value with a predetermined rate in order to generate an entire image with high accuracy (Paragraph [0009]).

***Allowable Subject Matter***

6. Claims 3 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 8 is allowed.

The following is a statement of reasons for the indication of allowable subject matter: the closest prior art made of record fails to teach or suggest a logarithm transformation means for performing a logarithm transformation of the sum of the absolute values of the difference of pixel values in identical positions in the overlapping regions and comparing the logarithm transformation of the sum with a predetermined threshold; and a median detecting means for calculating the median value of the absolute values in the overlap portions and comparing the sum of the median values with a predetermined threshold.

***Response to Arguments***

***Specification***

7. Page 12 line 25 has been amended to recite, “frame memory 33” in order to correct reference numeral. Therefore, the objection has been withdrawn.

Page 38 lines 28-29 has been amended to recite, “with other pixels turned into black pixels, as shown in FIG. 22.” in order to include reference to Figure 22.

Therefore, the objection has been withdrawn.

***Claim Rejections under 35 U.S.C. §101***

8. Claim 8 has been amended to recite, “A computer-readable media storing a program for causing a computer to execute a method” in order to claim statutory subject matter. Therefore, the rejection has been withdrawn.

***Claim Rejections under 35 U.S.C. §102 and 103***

9. Applicant’s arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Szeliski disclose Video Mosaics for Virtual Environments, and Uyttendaele et al. disclose a System and Method for Exposure Compensation.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSE M. TORRES whose telephone number is (571)270-1356. The examiner can normally be reached on M-F: 8:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on 571-272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jingge Wu/  
Supervisory Patent Examiner, Art Unit 2624

/JOSE M. TORRES/  
10/09/2008  
Examiner, Art Unit 2624